

**City of Portsmouth, New Hampshire  
Wastewater Master Plan**

**Phase 2 Initial Piloting Technical Memorandum Review Meeting  
Tuesday December 18, 2012 10AM-1PM  
Department of Public Works  
680 Peverly Hill Road**

**AGENDA**

1. Introductions
2. Wastewater Master Plan Piloting
  - a. Piloting Purpose & Approach
  - b. Pilot System Components and Layout
  - c. Pilot Data Analysis
    - i. Ability to Meet Effluent Goals
    - ii. Vendor Loading Rate Validation
    - iii. Hydraulic Stress Test Results
  - d. Secondary Process Resizing and Comparison
    - i. Process Schematics & Layouts
    - ii. Estimated Capital, O&M and Life Cycle Costs
  - e. Non-Monetary Evaluation Factors
    - i. WWTF Operators Questionnaire
    - ii. Criteria Evaluation Matrix
  - f. Piloting Technical Memorandum Recommendations and Assumptions
3. Revised Flows and Loads
  - a. Upgrade Concept
  - b. Dry Day Definition
  - c. Flow Data Set Parsing
  - d. Existing Condition Flow Rates
  - e. Existing Condition Volumetric Analysis
  - f. Existing Condition Loading Analysis
  - g. Future Condition Flow Rates
  - h. Future Condition Volumetric Analysis
  - i. Future Condition Loading Analysis
4. Open Discussion

Additional Discussion Items Pending Time Availability

1. Ongoing City Efforts
  - a. Post Piloting Engineering
  - b. Peirce Island WWTF Upgrade
  - c. River Hydrodynamic Model
  - d. BOD Permit Exceedance Investigations
  - e. Sewer separation
  - f. Infiltration and Inflow Study
  - g. Pease WWTF Evaluation
  - h. Rain Garden Installation
  - i. Hodgson Brook Restoration
2. Draft NPDES Permit Status/Schedule
3. Other Regulatory Issues
  - a. Anti-Degradation

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1. Better understand flows and loads analyses definition of wet and dry weather flows parsing, definition of wet-weather flow, extraneous flow reduction, presumed growth rate. What is the travel time in the collection system for wastewater flows to reach the WWTF headworks?
2. More detail on secondary WWTF operations during dry weather and wet weather conditions.
3. Learn more about the changes in WWTF influent flows and loads in 2012.
4. Projections of the number of days per year that secondary treatment system bypasses will occur after the completion of the sewer separation projects identified in the CD
5. Summarize the CSO discharge volume and frequency data collected by the City (annual volume and number of CSO discharges). Currently, what size rain event results in a CSO discharge?
6. What is being done about private inflow?
7. Any streams in the collection system?
8. Estimate of the % of collection system that is >100 years old

Mem on Portsmouth  
regarding WWRP

12/18/12

- Portland, East End, ME., how does ME permit their bypass.
- 2009 Correspondence from DES regarding
- antideq - how does it kick in if limits were never met.
- hydrodynamic model of the <sup>whole</sup> estuary? -
- phased construction? ~~the~~ permit for higher, but build to lower and expand if necessary, tie decision to comprehensive sequence of actions?
- ~~WWRP~~ ~~DES~~ permit written at 6.13, if goes smaller than we could make limit less.
- \$9.54/1000 current rates, go to \$18.02/1000 ~~of~~
- delay schedule to? City says no., they are moving forward.
- Terry contract regarding antideq
- hydrodynamic model - done the shell, haven't done sampling. will include ~~Prosper~~ Down, Rochester, Portsmouth maybe Kittery - available in spring.  
Hydroqual doing - expect to use to support permit.

Highlines Goods 6% of average daily load<sup>800</sup>

BEP filter = 8% of average daily load<sup>800</sup>

- letter requesting higher flow
- 2 outfalls, one with CSO limits
- 8 mgd monthly ave vs seasonal ave
- phased approach - permit at 6.1 allow initial build to  $\pm 4.8$
- re-looking at membrane technology - re-looking?